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What is Claimed is:

 An isolated factor or active fragment thereof derived from the bacterium *Pseudomonas aeruginosa* that modulates plasma membrane expression of ABC transmembrane proteins.

- 2. A composition comprising a mimetic of the isolated factor or active fragment thereof of claim 1.
- 3. A method for modulating plasma membrane
 10 expression of an ABC transmembrane protein in a cell
 comprising administering to the cell the isolated factor or
 active fragment of claim 1 or the mimetic of claim 2.
- 4. A method for delivering a small molecule therapeutic agent to the central nervous system of a subject comprising:
- (a) administering to the subject the isolated factor or active fragment of claim 1 or the mimetic of claim 2 so that expression of an ABC transmembrane protein which prevents small molecules from entering into or accumulating
 20 in the central nervous system is inhibited in the subject; and
 - (b) administering to the subject the small molecule therapeutic agent.
- 5. A method for treating cancer in a subject 25 comprising:
- (a) administering to the subject the isolated factor or active fragment of claim 1 or the mimetic of claim 2 so that expression of an ABC transmembrane protein which confers drug resistance in cancer cells is inhibited in the 30 subject; and
 - (b) administering to the subject an anti-cancer agent.

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6. The method of claim 5 wherein the cancer is resistant to therapy due to overexpression of ABC transmembrane proteins.

- 7. The method of claim 5 wherein the cancer 5 comprises a cancer of the central nervous system.
- 8. A method for treating secretory diarrhea in a subject comprising administering to the subject the isolated factor or active fragment of claim 1 or the mimetic of claim 2 so that plasma membrane expression of 10 intestinal CFTR is reduced and massive fluid and electrolyte losses in secretory diarrhea is inhibited.
- 9. A composition comprising an agent which inhibits suppression of plasma membrane expression of ABC transmembrane proteins by the isolated factor or active 15 fragment thereof of claim 1.
 - 10. The composition of claim 9 wherein the agent inhibits suppression of expression of CFTR.
- 11. A method for inhibiting suppression of CFTR expression in cells infected by Pseudomonas aeruginosa,20 said method comprising administering to the cells the composition of claim 10.
 - 12. A method for treating or alleviating symptoms of a subject suffering from cystic fibrosis comprising administering to the subject the composition of claim 10.

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25 13. The method of claim 12 further comprising administering to the subject a therapy which promotes CFTR exit from an endoplasmic reticulum, activates CFTR in an apical plasma membrane, or increases half-life of CFTR in

an apical membrane.

14. A method for identifying an agent for treatment or alleviation of symptoms of cystic fibrosis comprising assessing a test agent's ability to inhibit suppression of 5 CFTR expression by the isolated *Pseudomonas aeruginosa* factor of claim 1, wherein the ability of the test agent to inhibit suppression of CFTR expression by the isolated *Pseudomonas aeruginosa* factor is indicative of the agent being useful for treatment or alleviation of symptoms of 10 cystic fibrosis.